

CLAIMS

1. (Deleted)

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2. (Amended) An anisotropically conductive connector for electrically connecting a circuit board for inspection to a wafer by being arranged on the surface of the circuit board for inspection for conducting electrical inspection of each of a plurality of integrated circuits formed on the wafer in a state of the wafer, which comprises:

a frame plate, in which a plurality of anisotropically conductive film-arranging holes each extending in a thickness-wise direction of the frame plate have been formed correspondingly to electrode regions, in which electrodes to be inspected have been arranged, in all or part of the integrated circuits formed on the wafer, which is an object of inspection, and a plurality of elastic anisotropically conductive films arranged in the respective anisotropically conductive film-arranging holes in this frame plate and each supported by the peripheral edge about the anisotropically conductive film-arranging hole,

wherein each of the elastic anisotropically conductive films is composed of a functional part having a plurality of conductive parts for connection arranged correspondingly to the electrodes to be inspected in the

integrated circuits formed on the wafer, which is the object of inspection, containing conductive particles exhibiting magnetism at a high density and extending in the thickness-wise direction of the film and an insulating part mutually insulating these conductive parts for connection, and a part to be supported integrally formed at a peripheral edge of the functional part and fixed to the peripheral edge about the anisotropically conductive film-arranging hole in the frame plate, and

wherein the elastic anisotropically conductive film has initial properties that supposing that the total number of the conductive parts for connection is  $Y$ , an electric resistance of the conductive part for connection in a state that a load of  $Y \times 1 \text{ g}$  has been applied to the elastic anisotropically conductive film in a thickness-wise direction thereof is  $R_{1g}$ , and an electric resistance of the conductive part for connection in a state that a load of  $Y \times 6 \text{ g}$  has been applied to the elastic anisotropically conductive film in the thickness-wise direction is  $R_{6g}$ , the number of conductive parts for connection that a value of  $R_{1g}$  is lower than  $1 \Omega$  is at least 90% of the total number of the conductive parts for connection, the number of conductive parts for connection that a value of  $R_{6g}$  is lower than  $0.1 \Omega$  is at least 95% of the total number of the conductive parts for connection, and the number of conductive parts for connection that a value of  $R_{6g}$  is at least  $0.5 \Omega$  is at most 1% of the total number of the

conductive parts for connection.

3. The anisotropically conductive connector according to claim 2, wherein the coefficient of linear thermal expansion of the frame plate is at most  $3 \times 10^{-5}/K$ .

5 4. A probe member suitable for use in conducting electrical inspection of each of a plurality of integrated circuits formed on a wafer in a state of the wafer, which comprises:

a circuit board for inspection, on the surface of  
10 which inspection electrodes have been formed in accordance with a pattern corresponding to a pattern of electrodes to be inspected of the integrated circuits formed on the wafer, which is an object of inspection, and the anisotropically conductive connector according to claim 2 or 3, which is  
15 arranged on the surface of the circuit board for inspection.

5. The probe member according to claim 4, wherein the coefficient of linear thermal expansion of the frame plate in the anisotropically conductive connector is at most  $3 \times 10^{-5}/K$ , and the coefficient of linear thermal  
20 expansion of a base material making up the circuit board for inspection is at most  $3 \times 10^{-5}/K$ .

6. The probe member according to claim 4 or 5, wherein a sheet-like connector composed of an insulating sheet and a plurality of electrode structures each  
25 extending through in a thickness-wise direction of the insulating sheet and arranged in accordance with a pattern corresponding to the pattern of the electrodes to be

inspected is arranged on the anisotropically conductive connector.

7. A wafer inspection apparatus for conducting electrical inspection of each of a plurality of integrated circuits formed on a wafer in a state of the wafer, which  
5 comprises the probe member according to any one of claims 4 to 6, wherein electrical connection to the integrated circuits formed on the wafer, which is an object of inspection, is achieved through the probe member.

10 8. A wafer inspection method comprising electrically connecting each of a plurality of integrated circuits formed on a wafer to a tester through the probe member according to any one of claims 4 to 6 to perform electrical inspection of the integrated circuits formed on the wafer.